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GEORGIA INSTITUTE OF TECHNOLOGY  
OFFICE OF RESEARCH ADMINISTRATION  
RESEARCH PROJECT INITIATION

Date: March 21, 1973

Project Title: Continued Development of Training Model of the Criminal Justice System

Project No: E-24-611\*

Principal Investigator Dr. W. R. Fey

Sponsor: Law Enforcement Assistance Admin (LEAA); thru Georgia State Crime Commission

Agreement Period: From March 1, 1973 Until August 31, 1973

Type Agreement: Grant No. 73-TN-04-0001

Amount: \$2,331.00

Reports Required: Quarterly Financial Reports; Semi-Annual Progress Reports

Sponsor Contact Person (s): Mr. J. E. Higdon  
Director, State Crime Commission  
1430 W. Peachtree St., Suite 306  
Atlanta, Georgia 30309  
Phone: 656-3825

\*Note - Companion Account to E-24-612.

Assigned to: School of Industrial & Systems Engineering

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Security-Reports-Property Office	
Patent Coordinator	Other _____

**GEORGIA INSTITUTE OF TECHNOLOGY**

OFFICE OF RESEARCH ADMINISTRATION

**RESEARCH PROJECT TERMINATION**

Date: December 3, 1973

Project Title: **Continued Development of Training Model of the Criminal Justice System**

Project No: **E-24-611 (Companion to E-24-612)**

Principal Investigator: **Dr. W. R. Fey**

Sponsor: **Law Enforcement Assistance Admin. (LEAA); thru Ga. State Crime Commission**

Effective Termination Date: 8/31/73 (Grant Expiration)

Clearance of Accounting Charges: by 10/1/73 (Final Report Due)

Grant Closeout Items Remaining: **Final Patent & Invention Certification  
(omitted from Final Narrative Report).**

**School of Industrial & Systems Engineering**

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Library, Technical Reports Section  
Rich Electronic Computer Center  
Photographic Laboratory  
Terminated Project File No. \_\_\_\_\_  
Other \_\_\_\_\_

GEORGIA INSTITUTE OF TECHNOLOGY  
OFFICE OF RESEARCH ADMINISTRATION  
RESEARCH PROJECT INITIATION

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Date: March 21, 1973

Project Title: Continued Development of Training Model of the Criminal Justice System

Project No: E-24-612 \*

Principal Investigator Dr. W. R. Fey

Sponsor: Law Enforcement Assistance Administration (LEAA); thru Georgia State Crime Commission

Agreement Period: From March 1, 1973 Until August 31, 1973

Type Agreement: 72-TN-04-0003(S-1)

Amount: \$11,562

Reports Required: Quarterly Financial Reports; Semi-Annual Progress Reports

Sponsor Contact Person (s): Mr. J. E. Higdon  
Director, State Crime Commission  
1430 W. Peachtree St., Suite 306  
Atlanta, Georgia 30309  
Phone: 656-3825

\*Note: Companion account to E-24-611.

Assigned to: School of Industrial & Systems Engineering

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Patent Coordinator	Other _____

GEORGIA INSTITUTE OF TECHNOLOGY

OFFICE OF RESEARCH ADMINISTRATION

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RESEARCH PROJECT TERMINATION

Date: December 3, 1973

Project Title: Continued Development of Training Model of the Criminal Justice System

Project No: E-24-612 (Companion to E-24-611)

Principal Investigator: Dr. W. R. Fey

Sponsor: Law Enforcement Assistance Admin. (LEAA); thru Ga. State Crime Commission'

Effective Termination Date: 8/31/73 (Grant Expiration)

Clearance of Accounting Charges: by 10/1/73 (Final Report Due)


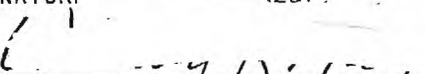
Grant Closeout Items Remaining: Final Patent & Invention Certification  
(omitted from Final Narrative Report)

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Terminated Project File No. \_\_\_\_\_  
Other \_\_\_\_\_

 <b>U. S. DEPARTMENT OF JUSTICE</b> LAW ENFORCEMENT ASSISTANCE ADMINISTRATION		<b>DISCRETIONARY GRANT</b> <b>PROGRESS REPORT</b>	
<b>GRANTEE</b> State Crime Commission Atlanta, Georgia 30309		<b>LEAA GRANT NO.</b> 73-TN-04-0001 72-TN-04-0003	<b>DATE OF REPORT</b> 10/25/73
<b>IMPLEMENTING SUBGRANTEE</b> Georgia Institute of Technology Atlanta, Georgia 30332		<b>REPORT NO.</b> 2	
		<b>TYPE OF REPORT</b> <input checked="" type="checkbox"/> REGULAR QUARTERLY <input type="checkbox"/> SPECIAL REQUEST <input checked="" type="checkbox"/> FINAL REPORT	
<b>SHORT TITLE OF PROJECT</b> Training Model of C. J. System		<b>GRANT AMOUNT \$</b> \$2,331; \$11,562; \$42,000	
<b>REPORT IS SUBMITTED FOR THE PERIOD</b> 10-1-72		<b>THROUGH</b> 9-30-73	
<b>SIGNATURE:</b> 		<b>TYPED NAME &amp; TITLE OF PROJECT DIRECTOR</b> Willard R. Fey, Associate Professor Industrial & Systems Engineering	

COMMENCE REPORT HERE (Add continuation pages as required.)

### Introduction

This report will serve as a final report for Discretionary Grants Numbers 72-TN-04-0003(S1), 73-TN-04-0001 and as a quarterly Report for Grant No. 73-TN-04 0001(S1). All of these grants were made for the purpose of continuing the development of a Training Model of the Criminal Justice System. This model was started during the Summer of 1972 under Discretionary Grant No. 72-TN-04-0003. A first report was issued on October 1, 1972 which outlined the additional work needed to develop an operating and completely useful training model. The present two grants are for that purpose.

The initial purpose of developing this model was to obtain an aid for the training of criminal justice planners at the federal, State and local levels of government. A second purpose was to gain a better understanding of the criminal justice system and how the various components within the system interact with each other. As the model is refined further these insights will become more apparent.

Since this is an interim report, details of the model will not be included. Such details concerning the preliminary model may be found in the October 1, 1972 report and details of the refined model will be found in the final report that will be issued following completion of this study. This report will document changes and progress that have occurred up to the date of the report (September 30, 1973).

### Advisory Committee

An ad hoc advisory committee was set up to assist in the refinement of the model. It was felt that the members of the committee by meeting with the members

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of the research team could give practical insights into the actual workings of the system that could not be obtained any other way. This committee has met four times on the Georgia Tech Campus and during the course of the meetings has contributed many suggestions which are being adopted by the research team.

The members of the ad hoc advisory committee are:

Dr. Gordon Waldo  
Southeastern Correctional and Criminology Research Center  
Florida State University  
Tallahassee, Fla. 32306

Mr. Chet Dettlinger	(as of Aug. 15, 1973
Chief, Police Planning	Assistant to the Chief of Police
Kentucky Crime Commission	Atlanta Police Dept.
Frankfort, Kentucky 40601	Atlanta, Georgia 30303)

Ms. Cheryl Purvis  
Office of State Crime Commission  
Atlanta, Georgia 30309

Judge Reed Merritt  
Gwinnett County Superior Court  
Lawrenceville, Georgia

The committee has met on July 17, August 3, September 7, and September 28. Many of the changes that have been made in the basic model are a direct result of suggestions made during these meetings. Other changes proposed by the research team have been tested on members of the committee before being put into the model.

#### Changes Made in the Basic Model

The financial sector was completely revised so that funds may be allocated by the user of the program to each sector separately. That is, he may add funds directly to the police or courts without changing all the other sectors of the system. He may also add to the total budget and let the model allocate the funds among the sectors. This was not possible in the previous version of the model. The sectors referred to here are police, courts, corrections, and education.

A procedure was added to the model to handle persons on probation and parole. The earlier version lumped these persons into the general criminal



and noncriminal populations. Since it was felt these persons had different pressures acting on them they are handled separately.

The arrest rate has been reformulated to be directly related to the police effort. This was not true in the earlier version of the model.

Several additional variables have been activated. Previously these variables were set equal to 1.0 so that they did not affect the model. This was done because of lack of time in developing the initial model and lack of an adequate knowledge of how these variables should act. This is now being remedied.

A number of initial values have been found to be in error. These have been corrected to bring the model closer to the situation in Atlanta as of January 1, 1960 (the model's starting time).

#### Changes in the Computer Program

The computer program itself has been changed in several respects to make it more easily usable and to give more recognizable answers. The original version had several shortcomings which have been corrected. This section of this report will outline the work done here.

The format of the TIMES Command has been changed to input the year instead of the period. This command is used to indicate the times for which the user desires the output for response variables to be listed. In the earlier version he needed to indicate times as period 1, 5, 9, etc. from the start of the computations. Now he merely indicates the years for which he desires the listing. If he wishes quarter or half year data he will use decimals, e.g. 1964.25 or 1964.5. In addition the years are indicated as whole numbers rather than a decimal raised to a power of ten i.e. 1964 rather than  $.1964 + 04$ .

The PAUSE and LIST commands now only apply to the run for which they are desired. In the previous version these commands carried over to all following runs until the program is re-executed. The TIMES command however

will carry over for each run for which a listing is asked. This is done so that the user is not required to indicate the times for which a listing is desired for each run.

One of the standard response (plot) variables has been changed.  $X_2$ , crime rate, is now plotted instead of CCA, number of reported crimes per year. The scale of  $X_2$  is now 0 to 20,000 and the symbol is L. The crime rate,  $X_2$ , is now computed as the number of crimes per year per 100,000 population and therefore corresponds to the typical definition of crime rate as used by professional criminal justice planners. The name of  $X_2$  was changed from CRIME RATE/CAPITA to CRIME RATE. The name of CCA was changed from CRIME RATE to REPORTED CRIMES PER YEAR.

It is now possible to make new runs after a summary plot without re-executing the program. The summary plot counts as a run however so its run number cannot be used in other summary plots.

Sevel initial values were found to be incorrect and were therefore changed.  $A_2$ , prison capacity, was set at 2000.  $B_2$ , court facilities, was set at 8. Previously these were calculated figures and could not easily be changed by the user. Similary  $P_2$ , number of police officers, was changed so that its initial value can be set by the user. The value used previously was 405. This was found to be in error and the value was changed to the correct 1960 figure of 678.

The initial values of  $C_1$ ,  $C_2$ ,  $C_3$  and  $C_4$ , which are non-criminal population, potential and active criminals, persons in the CJS, and persons in prison, respectively have been changed so that they are computed as fractions of  $X_1$ , the total population.  $X_1$  is now an input variable and may be changed easily by the user. Previously this was not possible.

#### Future Research

Additional funding following completion of the current contracts will be required if the model is to be refined enough to use it for planning and/or decision aid purposes. A proposal that describes the necessary work and its cost is now being drafted. It will be submitted shortly as a separate request for support.